Evidence of the Faraoni Oceanic Anoxic Event in the Zagros Basin, West of Iran

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The latest Hauterivian Faraoni Oceanic Anoxic Event is associated with environmental changes, some perturbations in the carbon cycle, biotic changes and deposition of organic rich sediments (e.g., Baudin *et al*., 2006; Föllmi *et al*., 2012). This event is reported from Italy, the southern Swiss Alps, the Vocontian Basin in France, Spain, Portugal, Morocco and the North Sea area (Mutterlose & Ruffell, 1999; Bersezio *et al*., 2002; Baudin, 2005; Company *et al*., 2005; Tremolada *et al*., 2009). In the present study, we use calcareous nannofossils to investigate sediments of the upper Hauterivian interval from the Garau Formation in the Zagros Basin (West of Iran). The main aim of this work is to identify the Faraoni Oceanic Anoxic Event by using calcareous nannofossils.

The studied interval mainly consists of grey to green marls, marly limestones, black shales and limestones. According to the Roth (1978) zonation, emended by Bralower *et al*. (1995), the NC5a, NC5b and NC5c subzones are recorded at the Upper Hauterivian sediments of the studied interval. An increasing trend in the number of *Micrantholithus* spp. and *Nannoconus* spp. has been observed from NC5a to the middle part of NC5b. Then, a decreasing trend in the abundance of both groups is recorded simultaneously with the LO of *Lithraphidites bollii* in marly-shaly layers, which can be the sign of the Faraoni event in similar studies in other parts of the world (e.g., Tremolada *et al*., 2009). Again, a peak in *Micrantholithus* spp. abundance, along with an increasing trend in the number of *Nannoconus* spp. has been observed. From the middle part of NC5b to the lower part of NC5c, an increasing trend in the number of eutrophic taxa and a decreasing trend in the number oligotrophic taxa have been recorded. Simultaneously, an increasing trend in the number of warm water taxa and a decreasing trend in the number of cool water taxa have been observed.

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